



## **Tyramine Restricted**

### **Low Monoamine (LMA) Diet**

#### **General Description**

The diet limits foods that are major sources of tyramine as well as other monoamines. Tyramine is found in foods that are fermented, aged, or spoiled.

#### **Indications for Use**

The LMA diet is used when patients participate in research protocols that require measurement of the end products of neurotransmitter metabolism in urine, blood or cerebral spinal fluid. In these protocols, it is important that the measurements are derived from endogenous metabolism. The LMA diet helps to eliminate confounding results because the major dietary sources of tyramine and other monoamines are restricted.

#### **Nutritional Adequacy**

In comparison to the Recommended Dietary Allowances, this diet is nutritionally adequate with the same exceptions as for the regular diet.

#### **Guidelines**

- Caffeinated beverages are limited to one serving (8 ounces) per day or as ordered
- All foods and beverages containing aspartame are eliminated when sugar substitute is not allowed. (Applies to NIAAA patients only.)

**Low Monoamine Diet**

<b>Food groups</b>	<b>Foods allowed</b>	<b>Foods not allowed</b>
Dairy	Milk, cottage cheese, cream cheese, sour cream, yogurt, buttermilk	Chocolate milk, all aged and imitation cheeses (e.g. Cheddar, Swiss, Blue, American, Mozzarella)
Meat or Substitute	Any fresh beef, fish, ham (except country ham), lamb, pork, poultry, veal. Bacon, hot dogs, canned tuna or salmon, peanut butter.	Aged, smoked, pickled, tenderized meat, fish, poultry. Beef liver, chicken liver, herring, dried fish, lox, caviar, anchovies, brain, pepperoni, dry or breakfast sausage, game, country ham.
Eggs	All except prepared with foods not allowed.	Any prepared with foods not allowed.
Potato or Substitute	Potato, rice, noodles, potato chips	Any prepared with foods not allowed.
Vegetables	Any except those not allowed.	Eggplant, tomato, Italian broad beans, fava beans, sauerkraut. Any prepared with foods not allowed.
Fruit and Fruit Juices	Any except those not allowed. Foods containing small amounts of pineapple (ie. fruit cocktail) are allowed.	Avocado, banana, figs, pineapple, plums, raisins, prunes, prune juice, oranges, orange juice.
Bread and Cereals	All except those not allowed.	Breads made with foods not allowed (eg. raisins, prunes, oranges or orange peel, banana, pineapple, cheese or walnuts). Cereals containing raisins, walnuts, or bananas.
Fats	All except those not allowed.	Any prepared with foods not allowed.

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Food groups	Foods allowed	Foods not allowed
Beverages	Gatorade, Koolaid, Tang, decaffeinated coffee or tea, caffeine-free carbonated beverages.  <b>Limited items:</b> 1- cup (8 oz.) caffeinated beverage (ie. coffee, tea, cola) allowed per day.	Caffeinated coffee, tea or cola except as noted. Chocolate, cocoa, wine, alcohol, non-alcoholic beer.
Soups	Any except those not allowed.	Any prepared with foods not allowed.
Desserts	Any except those not allowed.	Any prepared with foods not allowed.
Miscellaneous	Sugar, salt, pepper, lemon, spices, seasonings, herbs, mustard, vinegar, vanilla. Hard candies, coconut, caramel, jelly, chewing gum. Nuts except walnuts. Monosodium glutamate.  <b>Limited items:</b> Soy sauce and worcestershire sauce are allowed as a minor ingredient in a recipe (acceptability determined by Clinical Nutrition Service).	Catsup, chili sauce, cocktail sauce, olives, concentrated meat and yeast extracts (eg. Brewer's Yeast, Marmite), walnuts. Chocolate or coffee-flavored candy. Soy sauce or Worcestershire sauce when added as a condiment.

## **Low Monoamine Diet**

### **References**

McCabe, Beverly, J.: Dietary tyramine and other pressor amines in MAOI regimens: a review. JADA 86:1059, 1986.

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Shulman, K.I., Tailor, S.A.N., Walker, S.E., and Gardner, D.M.: Tap (draft) beer and monoamine oxidase inhibitor dietary restrictions. Can J Psychiatry 42:310, 1997.

Shulman, K.I., and Walker, S.E.: Refining the MAOI diet: tyramine content of pizzas and soy products. J Clin Psychiatry 60:191, 1999.